

CloudCheckr

How CloudCheckr Supports the AWS Well-Architected Framework

Cloud management for the five pillars of architectural excellence



Overview

Following best practices around operations, security, and efficiency can help enterprises and managed service providers (MSPs) get the most out of their cloud infrastructure. The leading cloud technology experts understand the challenges that these organizations face and have created solutions to help them implement these suggestions.

Amazon Web Services (AWS) has provided a helpful framework, the AWS Well-Architected Framework, to enhance the security, reliability, efficiency, and cost optimization of their customers' cloud environments. When combined with a cloud management platform like CloudCheckr, cloud managers can use the AWS Well-Architected Framework to ensure that their AWS environment is secure, reliable, efficient, and cost-effective.

What is the AWS Well-Architected Framework?

[According to AWS](#), the AWS Well-Architected Framework “provides a consistent set of best practices for customers and partners to evaluate architectures, and provides a set of questions you can use to evaluate how well an architecture is aligned to AWS best practices.”

These best practices fall into what AWS defines as the five pillars of architectural excellence:

- Operational Excellence
- Security
- Reliability
- Performance Efficiency
- Cost Optimization

How Does CloudCheckr Support the Well-Architected Framework?

CloudCheckr offers 600 Best Practice Checks that cover areas of all five pillars. Below, we'll explore what each pillar entails and how CloudCheckr supports the Well-Architected Framework.

CloudCheckr's Best Practice Checks cover:

- 63 Checks for Operational Excellence
- 306 Checks for Security
- 85 Checks for Reliability
- 44 Checks for Performance Efficiency
- 86 Checks for Cost Optimization

Operational Excellence

The Operational Excellence pillar of the AWS Well-Architected Framework addresses the ability to operate in the cloud, including supporting development and running workloads effectively. These best practices also recommend that cloud managers can gain insights into their operations that allow them to continually evolve and refine their infrastructure, business processes, and procedures. That includes the ability to automate changes, respond to events, and manage daily operations.

Reporting metrics is an important aspect of operational excellence. CloudCheckr helps organizations achieve operational excellence through tasks such as:

Tag Management

CloudCheckr helps organizations manage tags in AWS, so that administrators can track all cloud service consumption.

Change Monitoring

CloudCheckr enforces the use of CloudTrail and CloudWatch to be able to obtain metrics and offer recommendations for resource utilization and security of systems.

Resource Optimization and Recommendations

CloudCheckr makes recommendations including termination of idle resources, Reserved Instance (RI) purchases, right sizing, and more. By following these recommendations, CloudCheckr customers report saving 30% or more on their cloud spend.



Within the last six months, we were able to gather two AWS Competencies. A lot of that had to do with meeting the requirements of the Well-Architected Review, which would have been very difficult without CloudCheckr.”

David Pulaski

co-founder and CEO, [CloudChomp](#)

Security

The Security pillar focuses on protecting the information and systems within the user’s cloud environment. This includes following best practices around Identity and Access Management (IAM), data and system protection, and incident response. The Security pillar also explains the AWS Shared Responsibility Model: Amazon is

responsible for security of the cloud and the customer is responsible for security in the cloud.

CloudCheckr's security Best Practice Checks find, remediate, and prevent vulnerabilities in areas such as:

Identity and Access Management

Dozens of CloudCheckr's Best Practice Checks are specifically focused on IAM, such as policies around password strength and security, as well as Role-Based Access Control to limit who has what capabilities.

Data Protection

CloudCheckr protects data at all times, including in transit and at rest. The Best Practice Checks in CloudCheckr look for encryption when data is at rest and ensure that SSL/TLS is enabled for network traffic.

Self-Healing Automation

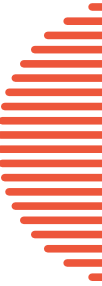
CloudCheckr's Best Practice Checks run day and night. With automated self-healing capabilities, administrators can select "Fix Now" or "Fix Always," enabling CloudCheckr to fix vulnerabilities 24/7, with or without the need for human intervention.

Total Compliance

CloudCheckr helps organizations maintain Total Compliance with 35 major regulatory frameworks, including HIPAA, CIS, PCI-DSS, NIST and others, to keep cloud infrastructure audit-ready at all times.

Reliability

Reliability means that cloud services perform as intended correctly and consistently. The best practices in this pillar help cloud architects build and maintain a resilient workload that can recover from failures, including outages, Distributed Denial-of-Service (DDoS) attacks, and other potential causes of downtime.



CloudCheckr's Best Practice Checks ensure that organizations can build and maintain a resilient architecture through:

Automated Utilization and Provisioning

CloudCheckr helps administrators avoid potentially costly human error and “stop guessing capacity,” a recommendation within the AWS Well-Architected Framework, by using automation to monitor utilization and optimize provisioning.

High Availability

CloudCheckr's Best Practice Checks ensure high availability by requiring that snapshots are maintained properly and that Load Balancers with healthy instances, spread out over multiple Availability Zones, are used to protect against manmade or natural disasters.

Performance Efficiency

Performance efficiency is defined as the ability to use IT and computing resources efficiently and at the lowest possible cost. This means selecting the correct resource types and sizes based on workload requirements, monitoring performance, and making informed decisions as business needs, demand, and technologies evolve.

CloudCheckr enhances performance efficiency in AWS through the use of:

Heat Maps

CloudCheckr's heat maps can display, graphically, the hot or cold usage levels of a particular instance over time.

Right Sizing Reports

To ensure efficiency, the CloudCheckr Right Sizing report recommends changes, up or down, for size and type of RIs, based on the utilization levels of CPU and network in/out, and optionally memory.

Automation Tools

The greatest efficiencies are a result of CloudCheckr's automation tools. Through workflow automation, self-healing, and custom alerts, cloud managers can focus on higher-level tasks and manage their growing cloud at scale.



The robust system within CloudCheckr helps hit on different areas related to the Well-Architected Review. We can take that tool and plug it into the environment very quickly. It's just a 30-minute conversation with the customer to enable features and walk them through the platform.”

Shiley Johnson

Director of Operations, [Eplexity](#)

Cost Optimization

Cost optimization looks at the most efficient use of cloud costs. The best practices in this pillar help organizations avoid overspending on wasted or underutilized resources and scale to meet business needs.

CloudCheckr helps organizations meet the requirements of the cost optimization pillar through:

Cost Savings Report

CloudCheckr's Cost Savings report displays the potential savings by adopting recommendations for previous generation, unused and underutilized resources, and acquisition of RIs.

Tag Management

CloudCheckr helps organizations manage costs through a robust tagging system designed to track all cloud service consumption.

RI Purchases

Organizations can match supply and demand through RI Mapping and RI Unsharing to leverage Reserved Instance purchases across the entire enterprise or, for MSPs and resellers, across multiple customers.

Cost Alerts and Spend Analysis Reports

Organizations can maintain awareness of their expenditures through CloudCheckr's Cost Alerts and Spend Analysis reports, which can be exported as PDF or CSV files.

Profit Analysis

Designed for resellers, CloudCheckr's Profit Analysis report shows margins for actual costs versus list cost pricing.



Reviewing AWS Best Practices

AWS customers and partners can conduct a Well-Architected Review using these CloudCheckr capabilities to fulfill the requirements. They can also use the AWS Well-Architected Tool, a free tool in the AWS Management Console, to review workloads, compare them to the latest AWS architectural best practices, and make improvements as needed.

CloudCheckr's AWS Well-Architected Tool integration provides users with a detailed inventory of their Well-Architected Workloads. Users can filter and sort the data about their Workloads, and each Workload can be expanded to display more details.

By combining these five pillars of architectural excellence with CloudCheckr, you can ensure that your cloud infrastructure conforms to industry standard guidelines and meets best practices for operations, security, reliability, performance, and cost.



Implement the Well-Architected Framework with CloudCheckr

Ready to enhance your cloud architecture and bring best practices to your environment? Learn more about how CloudCheckr can help your organization implement cloud best practices. Sign up for [a free CloudCheckr demo](#).



About CloudCheckr

CloudCheckr gives organizations control of their cloud. The CloudCheckr CMx platform proactively analyzes cloud infrastructure to provide customers with visibility, intelligence and automation to better manage and reduce costs, make environments more secure and in compliance, and optimize resources in use. Enterprises, public sector organizations and managed service providers rely on CloudCheckr to help manage and govern \$4 billion in spend for their complex and sensitive cloud environments. For more information, visit [CloudCheckr.com](https://www.cloudcheckr.com), connect with CloudCheckr on [LinkedIn](#), or explore the [CloudCheckr Resource Center](#).